

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP03/ 13132

<b>A. CLASSIFICATION OF SUBJECT MATTER</b> Int. Cl. <sup>7</sup> G06F17/10, H03H17/06, G10K15/12, G10L19/06		
According to International Patent Classification (IPC) or to both national classification and IPC		
<b>B. FIELDS SEARCHED</b> Minimum documentation searched (classification system followed by classification symbols) Int. Cl. <sup>7</sup> G06F17/00-17/18, H03H17/00-17/08, G10K15/00-15/12, G10L19/00-19/14		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Japanese Utility Model Gazette 1926-1996, Japanese Publication of Unexamined Utility Model Applications 1971-2004, Japanese Registered Utility Model Gazette 1994-2004, Japanese Gazette Containing the Utility Model 1996-2004		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)		
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	SAMADI et al. Universal Maximally Flat Lowpass FIR Systems. In: IEEE Transactions on Signal Processing, IEEE, 2000, vol. 48, no. 7, p.1956-1964	3
T	SAMADI et al. Concise Representation and Cellular Structure for Universal Maximally Flat FIR Filters. In: Proceedings on the 2003 International Symposium of Circuits and Systems, IEEE, 2003, vol. 4, p. 4-201 - 4-204	3
A	HERRMANN, On the Approximation Problem in Nonrecursive Digital Filter Design. In: IEEE Transactions on Circuits and Systems, IEEE, 1971, vol. 18, p. 411-413	3
A	BAHER, FIR Digital Filters with Simultaneous Conditions on Amplitude and Delay, Electronics Letters, 1982, vol. 18, no. 7, p.296-297	3
<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/> See patent family annex.		
* Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier application or patent but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art "&" document member of the same patent family		
Date of the actual completion of the international search		Date of mailing of the international search report
13.01.2004		27.1.2004
Name and mailing address of the ISA/JP		Authorized officer
Japan Patent Office		Shoji HADATE
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**Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)**

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.: 1, 2  
because they relate to subject matter not required to be searched by this Authority, namely:  
**The subject matters of claims 1 and 2 relate to scientific and mathematical theories, which do not require an international search by the International Searching Authority in accordance with PCT Article 17(2)(a)(i) and Rule 39.1(i)**
2. ☐ Claims Nos.:  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

**Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)**

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.  
☐ No protest accompanied the payment of additional search fees.